9588

Diag. Cht. Nos. 1114 & 1259

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT
(HYDROGRAPHIC)

Type of Survey HYDROGRAPHIC

Field No. AHP-40-1-76

Office No. H-9588

LOCALITY

State FLORIDA

General Locality WEST COAST

Locality VICINITY OF CEDAR KEYS

1976

CHIEF OF PARTY
J.O.Rolland, W.R.Daniels

LIBRARY & ARCHIVES

DATE April 12, 1978

☆ U.S. GOV. PRINTING OFFICE: 1976—669-441

9588

Area 4
1259 (11409)
1259 (11409)
1114 (11409)

NOAA FORM 77-28 (11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REGISTER NO.

H-9588

HYDROGRAPHIC TITLE SHEET

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

AHP-40-1-76

State Florida

General locality West Coast

Locality Vicinity of Cedar Keys

Scale 1:40,000 Date of survey 12 Feb 1976 - 7 Aug 1976

Instructions dated 20 August 1974 Amended 14 April 1975 Project No. OPR-508-AHP-75

Vessel NOAA Launches 1255 and 1257

Chief of party Cdr. John O. Rolland and Lt. Cdr. William R. Daniels

Surveyed by Lt. Cdr. D. M. Wilson, Lt. Cdr. A. Theberge, Jr., Lt. D. Drake, Lt. R. P. Floyd, Ens. S. R. Ellis

Soundings taken by echo sounder, hand lead, ~~pole~~

Graphic record scaled by Digital Fathometer

Graphic record checked by DMW, RPF, ELM, GSL, RS, DB

Protracted by N/A Automated plot by COMPLOT

Verification by

Soundings in ~~fathoms~~ feet at MLW ~~MLLW~~

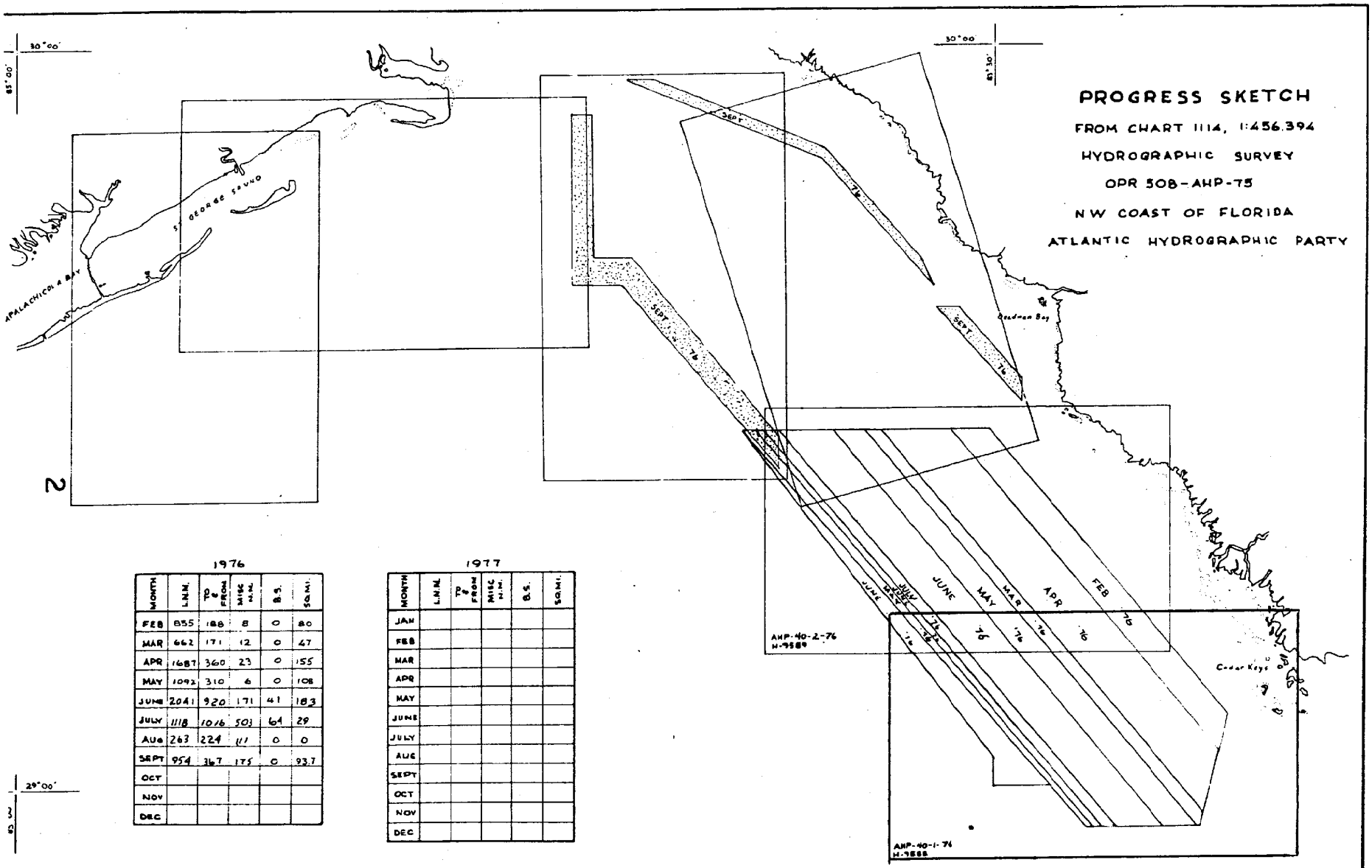
REMARKS:

Appld. to stds. 7-11-78 WJT

1

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. G.P.O. 1972-769-565/519 REG.#6



1976

MONTH	L.N.M.	TO & FROM	MISC N.M.	B.S.	SQ.MI.
FEB	855	188	8	0	80
MAR	662	171	12	0	47
APR	1687	360	23	0	155
MAY	1092	310	6	0	108
JUNE	2041	920	171	41	183
JULY	1118	1016	503	64	29
AUG	263	224	111	0	0
SEPT	954	367	175	0	93.7
OCT					
NOV					
DEC					

1977

MONTH	L.N.M.	TO & FROM	MISC N.M.	B.S.	SQ.MI.
JAN					
FEB					
MAR					
APR					
MAY					
JUNE					
JULY					
AUG					
SEPT					
OCT					
NOV					
DEC					

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-9588 (AHP 40-1-76)

SCALE: 1:40,000 YEAR: 1976

VESSEL: Hydrographic Surveys Branch CHIEF OF PARTY: William R. Daniels

A. Project

This project was accomplished under Project Instructions OPR-508-AHP-75, Northwest Coast of Florida, 20 August 1974. The instructions were amended by Change Number 1, Amendment to Instructions, 14 April 1975, and change Number 2, Amendment to Instructions, 7 September 1976.

B. Area Surveyed

The area encompassed by the survey was offshore of Cedar Keys, Florida. The following points form the boundaries of the survey:

North	29°12.5'N	83°14.5'W
East	29°06.0'N	83°08.5'W
South	28°56.5'N	83°11.0'W
Southwest	28°56.5'N	83°21.5'W
Northwest	29°12.5'N	83°39.0'W

The survey was accomplished between 12 February 1976 and 7 August 1976.

C. Sounding Vessels

All sounding on this survey was accomplished with NOAA Launch 1255 (VESNO 1255) and NOAA Launch 1257 (VESNO 1257). All survey records are labeled with vessel numbers. In addition, Launch 1255 has records annotated in blue, Launch 1257 in black.

D. Sounding Equipment and Corrections to Echo Soundings

Launch 1255 used the following Raytheon equipment to obtain soundings during the survey:

Recorder, Model DE-723, Unit 723-40, S/N 2924
Digital Depth Monitor, Model DE-723-41, Unit DE-723D, S/N 1045
Electronic Cabinet Unit, Model DE-723-42, Unit 723, S/N 2781

Launch 1257 was equipped with the same Raytheon models and units. The serial numbers were as follows:

Recorder, Model DE-723, Unit 723-40, S/N 37024
Digital Depth Monitor, Model 723-41, S/N 2772
Electronics Cabinet Unit, Model DE-723, Unit 723-42, S/N 1910

Below is a summary of the methods used to determine, evaluate, and apply the various corrections to Launch 1255 echo soundings.

Velocity corrections were determined solely by the means of bar checks. Weather permitting, bar checks were taken every week in which hydro was run. When the survey was completed, the bar check lines were measured for accuracy and found to have shrunk. The resulting error was linear along the entire lengths of both lines. At the 50-foot mark, one line was actually 49.65 feet and the other was actually 49.55 feet. This averages to an error of -0.4 feet at the 50-foot mark. Therefore, the line correction was -0.8% at the time the lines were measured.

It can only be assumed that this error gradually increased from the time the bar check lines were originally marked until the error was discovered. Accordingly, it was prorated for each 0.2% from the time the lines were marked, in mid-December, 1975, until mid-August, 1976. The error was then taken into account before velocity corrections were determined.

The corrections themselves were determined by averaging the digital depths (down and up) for the various bar depths. These means were added to the transducer draft to obtain the applicable depths. This value was then subtracted from the true depth, which is the bar depth plus the line correction.

After all the corrections were determined, they were placed in tabular form (Abstract of Bar Check Corrections) with the corrections placed in columns below their applicable depths. By evaluating this table it was determined that two velocity curves should be drawn. With the exception of five rejected values, corrections from bar checks taken on days 043 through 131 and days 161 through 220 were averaged. Two curves were then established by plotting average corrections versus the respective applicable depths. Then, to make the velocity tables, depths were scaled off each time the correction changed 0.2 feet.

Digitized soundings are presumed to have no instrument error (including initial error). It follows that the analog trace should be adjusted to fit the digital printout. This was done by comparing exact digital readings, obtained from the master printout, with their analog counterparts. The differences were applied to the analog trace while scanning. At times, the recorder initial was set off zero while underway to make the analog to digital correction equal to zero, thus eliminating the need to apply this correction while scanning. When this was done, however, it was well annotated on the fathogram.

On day 085, the propellers on Launch 1255 were replaced with props which had less pitch. Accordingly, two settlement and squat correction curves must be applied to soundings obtained with launch 1255 in this survey. Corrections prior to day 085 came from settlement and squat determinations on January 16, 1975, off Egmont Key, Florida. The standard rod and level method was used. At 1850 rpm, the speed at which hydro was run prior to day 085, the correction was +0.1 feet.

At 2000 and 2100 rpm's, the speed at which hydro was run after day 085, the correction is -0.1 feet. This was determined on April 28, 1976, off Cedar Key, Florida. The method used was as follows: A line on which the vessel would run was defined via the hydroplot system. A point on this line where depths would be measured was further defined by noting the value of a Raydist arc which was being crossed. The line was run at various speeds and a depth was recorded at the moment the particular Raydist rate was crossed. Differences in depth between stopped and running speed indicate the settlement and squat correction. Tide was accounted for by obtaining four depths for each speed--stopped, out at speed, back at speed, and stopped. By averaging the two depths while stopped over the point and then the two depths at speed, the effect of tide was eliminated. Data from both settlement and squat determinations are included in the appendix of this report.

Velocity corrections for Launch 1257 were determined solely by the direct comparison bar check method. Bar checks were taken on a weekly basis, when weather permitted. All bar checks are abstracted and included in the appendices.

After examining the bar check data, it was determined that two curves would have to be utilized in the final smooth plot. These curves were determined by averaging all bar checks from J.D. 043-182 and all bar checks from J.D. 183-215. The two velocity corrector tapes determined from these curves are included with the survey data. The survey sheets sent in from Launch 1257 were plotted using prior determined velocity correctors. As a point of interest, the velocity correctors determined during the survey period agree quite well with the historical data determined during prior Launch 1257 surveys in the Gulf.

Settlement and squat data for Launch 1257 was determined prior to this survey. At standard survey speeds, Launch 1257 maintains a transducer draft correction of 2.4 feet. This value is the result of a 2.7-foot static draft and a settlement and squat correction of -.3 feet at standard hydro speed. 2.4 feet is shown as TRA on both master and corrector with a 0.0 settlement and squat correction applied on TC/TI. The only slow speed survey work was accomplished running checks of spikes and it is recommended that this work be plotted on an overlay. Changes in settlement and squat correctors are applied via the corrector tape for those periods of slow speed.

E. Hydrographic Sheets

The field sheets were prepared aboard the survey vessels using the hydroplot system. Verification and smooth plotting will be done at the Atlantic Marine Center, Norfolk, Virginia. Projection and control parameters are in the appendix.

F. Control Stations

Left (red) station: Boggy, 1976 (001)
Right (green) station: H-AMC-5-FI, 1975 (002)

Station location was accomplished by Mr. Jim Shea of Operations Division, Atlantic Marine Center, Norfolk, Virginia. Third-order methods were used. NAD 1927 was used for position computation.

G. Hydrographic Position Control

Control used for this survey was the Hastings Raydist DR-S system operating in the range-range mode. No known difficulties were experienced with the control system that may have degraded the expected position accuracy. At times, there was difficulty in receiving signals which was due to two things. One was difficulty in loading the left shore station, which was a 270-foot tower built by Lorac Corporation. The other was that Launch 1255's receiver (fourth party system) was receiving interference from Launch 1257's lower side band frequency. This problem was overcome by replacing the fourth party equipment aboard Launch 1255 with third party equipment. As stated above, it is not expected that these problems degraded position accuracy.

Shore station equipment:

Left Station, Red Raydist Model AA-60, A/N 55
Right Station, Green Raydist Model AA-60, S/N 119

Equipment aboard Launch 1255:

Antenna Loading Coil, Model QB-52B, S/N 194
DR-S System Navigator, Model ZA-67B
S/N 58 Julian Days 043 and 044
S/N 109 Julian Days 058 to 134
S/N 58 Julian Days 155 to 220
Raydist Transmitter, Model TA-96B
S/N 45, Frequency 3306.520 Julian Days 043 and 044
S/N 37, Frequency 3306.495 Julian Days 058 to 220

Equipment aboard Launch 1257:

Antenna Loading Coil, Model QB-52B
S/N 143 Julian Days 043 to 159
S/N 81 Julian Days 160 to 215
DR-S System Navigator, Model ZA-67B, S/N 67
Transmitter, TA-96, S/N 86

Calibration of the Raydist system was accomplished by comparing observed Raydist values with actual values while alongside one of two fixed aids to navigation located with third-order methods by Mr. Jim Shea. The offset distance from the Raydist antenna to the center of the fixed aid was accounted for by averaging pairs of observed readings taken on opposite sides of the aid. Usually four values (two pairs) were observed for each calibration. Calibrations were taken before and after hydro was run each day except when both stations stopped tracking during the day because of weather. The morning and afternoon calibrations generally agreed well, indicating this data is adequate to be applied to raw data positions throughout the survey.

H. Shoreline

There was no shoreline delineated on this survey.

I. Crosslines

Crosslines were run to the extent of 9.6% of the basic system of sounding lines. Crosslines on the inshore plotter sheet were run by Launch 1255. Those on the offshore sheet were run by 1257. Both launches ran basic hydro on both sheets. Agreement with crosslines was very good.

J. Junctions See Verifier's Report

H-9588 junctions with four surveys. On the south is H-9583. This survey was run in 1975 by Launches 1255 and 1257. Agreement along the junction line is excellent. On the north is H-9589. This survey was run concurrently with H-9588, using the same horizontal control and sounding vessels. Naturally, agreement is excellent.

The survey junctions with H-7792 and H-7818 on the west. These are 1:100,000 scale surveys run in 1950. Agreement of random soundings varies between 0 and 4 feet. As it has been twenty-six years since the prior survey, it is probable that some shifting of the bottom has occurred.

K. Comparison With Prior Surveys See Verifier's Report

There are no numbered presurvey review items on the sheet.

The survey area was previously covered by Surveys H-1771 and H-1928. These surveys were conducted in 1887 and 1889, respectively, and sounding density is very sparse. Also, depths on NOS Chart 11408 (1259) which lie within the H-9588 survey limits are representative soundings taken directly from these old surveys. For these reasons, comparison with these surveys would be of little value. (Comparison with Chart 11408 is made in the next section.)

The only dashed circle PSR item lying within the area surveyed by Launch 1257 was a 19' sounding at 29°06.5'N, 83°15.3'W. Although numerous 20-foot soundings were recorded in the general vicinity, no 19' sounding was found right at that location. However, a 19/18' sounding was recorded at 29°06.3'N, 83°15.0'W. In addition, 17' soundings were found within .4 n.m. to the north and northwest and 19/18' soundings were found on main scheme lines .2 n.m. to the south.
A shoal to the north has a least depth of 15' at 29°-06'-48·24, 83°-14'-58·08.

L. Comparison With The Chart

Chart 11408 (1259), a 1:80,000 scale chart, is the largest scale chart on which the survey lies. The area on this chart which lies within the H-9588 survey limits was compiled directly from surveys run in the 1880's. Due to the fact that the sounding lines in these surveys were spaced roughly a mile apart and possibly because shifting of the bottom characteristics may have occurred over the past 90 years, comparison with Chart 11408, 12th Edition, July 13, 1974, is very poor.

About 2/3 of the soundings agree within three feet, but some of the others differ by nearly 15 feet; those which are charted being generally deeper. The area showing the largest discrepancies is located between latitudes 26°07'N and 26°09'N and longitudes 83°22'W and 83°31'W. The following table indicates some specific examples:

Launch 1255 Hydro

Latitude ° '	Longitude ° '	Charted Depth Ft	Survey Depth Ft
29 08.3	83 30.3	49	3736 - posn 3248 - 3249
08.4	28.8	42	3736 - posn 2882-2883
08.4	27.5	42	3738 - posn 2576 - 2577
08.5	26.2	39	3534 - posn 2291
08.6	24.6	37	3424 - posn 3581 - 3582
08.6	23.2	37	3029 - posn 1580 - 1581
07.3	23.4	36	3231 - posn 3584
07.3	24.7	39	33 - posn 2168-2166
07.3	25.9	42	3635 - posn 2454
07.4	28.4	42	38 - posn 3032
07.4	29.9	46	4342 - posn 3579 - 3580
08.8	19.6	31	2827 - posn 1156 - 1157
08.7	20.7	27	2221 - posn 4074

LAUNCH 1257

40-1-76

Latitude ° '	Longitude ° '	Charted Depth Ft	Survey Depth Ft
29 03.0	83 10.4	19	23 24 posn 5442-5443
08.8	17.7	27	19 posn 5788-5789
09.5	18.4	19	23 posn 5787-5788
11.1	17.8	19	23 posn 5395-5396
00.4	23.5	43	40 39 posn 7262-7263
02.7	28.4	43	47 posn 6258-6259
03.9	30.6	54	50 posn 6429-6430
05.2	29.9	43	47 posn 5934-5935
07.4	29.8	46	42 posn delete
07.4	31.5	48	41 posn 5906-5907
06.6	33.2	51	49 48 posn 6402-6403
08.2	32.2	51	45 posn 6674-6675
09.8	33.4	45	41 posn 7109-7110

In addition, due to the distant line spacing on the prior survey, a great many shoal soundings were obtained during this survey which were previously uncharted. Some of these depths are shoaler than the surrounding charted soundings by as much as 10 or 12 feet. Least depths on developed features are labeled on the overlays and tabulated below, but there are also many other depths considerably shoaler than the surrounding charted soundings. The entire area should be reviewed very carefully and a new edition of the chart made on the basis of this survey, H-9583; 1:40,000, 1975, and H-9589, 1:40,000, 1976.

LEAST DEPTHS

(Previously Uncharted)

Launch 1255 Hydro

Latitude ° '	Longitude ° '	Depth Ft	Remarks
29 03.5	83 16.1	21 20 - posn 821-822	
04.1	17.5	22 21 - posn 4040-4041	
05.4	17.2	20 21	Numerous 21's in vicinity. - posn 1122-1123
08.8	19.5	19 18	Near charted 31. More 18's 1 mile SE. - posn 1172-1175
08.6	20.6	20	Near charted 27. - posn 873-874
09.2	22.1	22 21 - posn 4084-4085	
12.1	23.8	23 - posn 952-953, posn 4094	
10.6	15.1	12 - posn 5015-5016	

Latitude °	'	Longitude °	'	Depth Ft	Remarks
28	59.3	83	15.0	24	posn 1701-1702
	57.9		16.4	29	posn 3772-3773
	59.2		17.7	27	Another 27 0.2 miles east. posn 3799-3800
29	00.8		17.6	27	posn 1965-1966
	01.9		19.7	27 26	posn 1965-1966
	02.8		17.6	24	posn 1538-1539
	02.8		20.4	26 28	posn 3856-3857
	02.1		23.6	31 30	posn 3876-3877
	04.0		23.7	29 28	More 28's 0.1 mile ESE- posn 3887-3888, posn 2638-2639
	04.1		18.6	23 22	posn 3844-3845
	05.1		20.5	25	posn 1676-1677
	06.6		22.4	26	posn 3909-3910
	06.3		25.3	31 30	posn 2527-2528
	07.9		25.9	30 29	posn 3933-3934, 2571-2572
	08.7		24.6	25 24	Near charted 37- posn 3543-3544
	09.8		29.2	28	Near charted 34- posn 3596-3597
	10.7		29.1	31 30	posn 3876-3877, 2446-2447
	10.7		32.2	34 33	posn 3985-3986
	11.4		31.3	32 31	posn 3506-3507

LAUNCH 1257

40-1-76

Latitude °	'	Longitude °	'	Least Depth Ft	
28	57.1	83	21.0	34	Offshore - posn 7058-7059
29	01.2		26.85	41 42	" - posn 6161-6162
	00.4		30.4	47	" - posn 6640
	09.35		32.2	34	" - posn 7187-7188
	09.3		32.4	35 34	" - posn 7147-7148
	08.4		31.3	37 36	" - posn 7957-7958, 7283-7284
	08.3		31.2	37 36	" - posn 7241-7242
	12.1		38.25	46 45	" - posn 8387
	08.4		34.0	42 39	" - posn 7968-7969
28	59.8		24.7	39	" - posn 7846-7847
	59.9		25.0	39	" - posn 7848-7849
	58.9		22.1	36	" - posn 7219-7220, 7162-7163
	58.65		23.0	36	" - posn 6717-6718
29	07.9		34.5	37 38	" - posn 6448-6449
29	00.9	83	10.2	17	Inshore - posn 5805-5806
	01.5		10.8	19 18	" - posn 1803-1804
	05.8		09.3	15	" - posn 1542-1543
	05.7		14.7	17	" - posn 5705-5706

Latitude ° '	Longitude ° '	Least Depth Ft	
29 06.2	83 13.8	17	Inshore - posn 5502-5503
06.3	15.0	18 ~~19~~	" - posn 4314-4315
06.8	15.7	17	" - posn 5553-5554, 7793-7794
06.9	15.3	17	" - posn 5629, 7792
07.8	11.8	15	" - posn 5082-5083
08.3	15.2	16	" - posn 5389-5390
08.4	12.3	15	" - posn 5199
09.1	13.5	15 ~~14~~	" - posn 5009-5010, 28-29
09.6	13.9	13 ~~12~~	" - posn 5027-5028
10.5	14.4	12	" - posn 5087-5088, 7686-7687
11.5	15.8	14	" - posn 5060-5061
12.4	16.8	13	" - posn 5019-5020

The Obstr PA Fish Haven charted at 29°04.5'N, 83°10.0'W was not found anywhere in the vicinity. Likewise, neither buoy marking its position was located. According to local fishermen's knowledge, the buoys and fish haven were lost in a storm. It is recommended that these items be removed from the chart. See Verifier's Report

M. Adequacy of Survey

This survey is sufficiently complete and adequate to warrant its use to supercede prior surveys for charting.

N. Aids to Navigation

Detached positions were obtained on one newly constructed fixed light. It was the Fl 4 sec 19 ft 7M "12" located at 29°09.8'N, 83°14.4'W according to Notice to Mariners 2/75 Chart Corrections. Both launches obtained DP's on this aid. The position obtained on Launch 1255 was 29°09'58"N, 83°14'22"W and on Launch 1257 was 29°09'57"N, 83°14'23"W. These positions agreed very well and serve as a check on the Raydist equipment for the survey. The true position should be taken as the mean.

Launch 1255 - Sounding Volume Page 3 → Position computed at Atlc φ 29°09'-57".92 λ 83°-14'-21.64
Launch 1257 - Position 5013 → Posn 13

O. Statistics

	VESNO 1255	VESNO 1257	TOTAL
Total Number of Positions	4,161	3,036	7,197
N.M. of Sounding Line	1,915	1,071.9	2,986.9
N.M. of Crossline	114	173.6	287.6
N.M. of Development	260	139.6	399.6
Total N.M. of Hydrography	2,289	1,385.1	3,674.1
Square N.M. of Hydrography	182	98	280
Bottom Samples	0	50	50

P. Miscellaneous

This survey was worked on concurrently with H-9589, the 1:40,000 survey which junctions on the north. Raydist strip charts were separated after the survey was run; therefore, a break in lane count occurs on each days' strip chart when the survey vessel left one survey sheet to continue on the other. Calibration was obtained at a fixed aid to navigation with corrections to be applied annotated on the printouts of both surveys.

Launch 1257 recorded numerous stray soundings which required further checking. The method used for checking these spikes was to rerun the segment of line containing the sounding in question. If the sounding was found in approximately the same location, lines were run at 10-, 25-, or 50-meter intervals parallel to the main scheme lines to attempt to further delineate the feature. As a final check, the main scheme line was rerun at idle speed. In the event that suspicious soundings remained, divers were utilized to determine if an obstruction existed. It is noted that out of 43 soundings checked in this manner, no obstructions were deemed to exist by the hydrographer.

The divers were utilized in two locations. The verifier's attention is called to Development 44 (see accompanying table for position numbers). Without divers, the hydrographer would have been forced to conclude the existence of an obstruction protruding approximately 17 feet above the surrounding bottom. However, the divers found a massive assemblage of bait fish hovering over a small rocky area approximately 100 meters in diameter. Nothing protruded more than 2 feet above the surrounding bottom in this area. Based on this evidence, the hydrographer assumes that the other spikes found were caused by bait fish and that no further work is required.

Q. Recommendations

None

R. Automated Data Processing

Program Number	Program Name	Version Date
RK111	Range-Range Real Time Plot	1/30/76
RK201	Grid, Signal and Lattice Plot	4/18/75
RK211	Range-Range Non-Real Time Plot	1/15/76
RK300	Utility Computations	2/05/76
PM360	Electronic Corrector Abstract	2/02/76
RK500	Predicted Tide Generator	11/10/72
AM602	Elinore-Line Oriented Editor	5/20/75

S. Reference to Reports

None

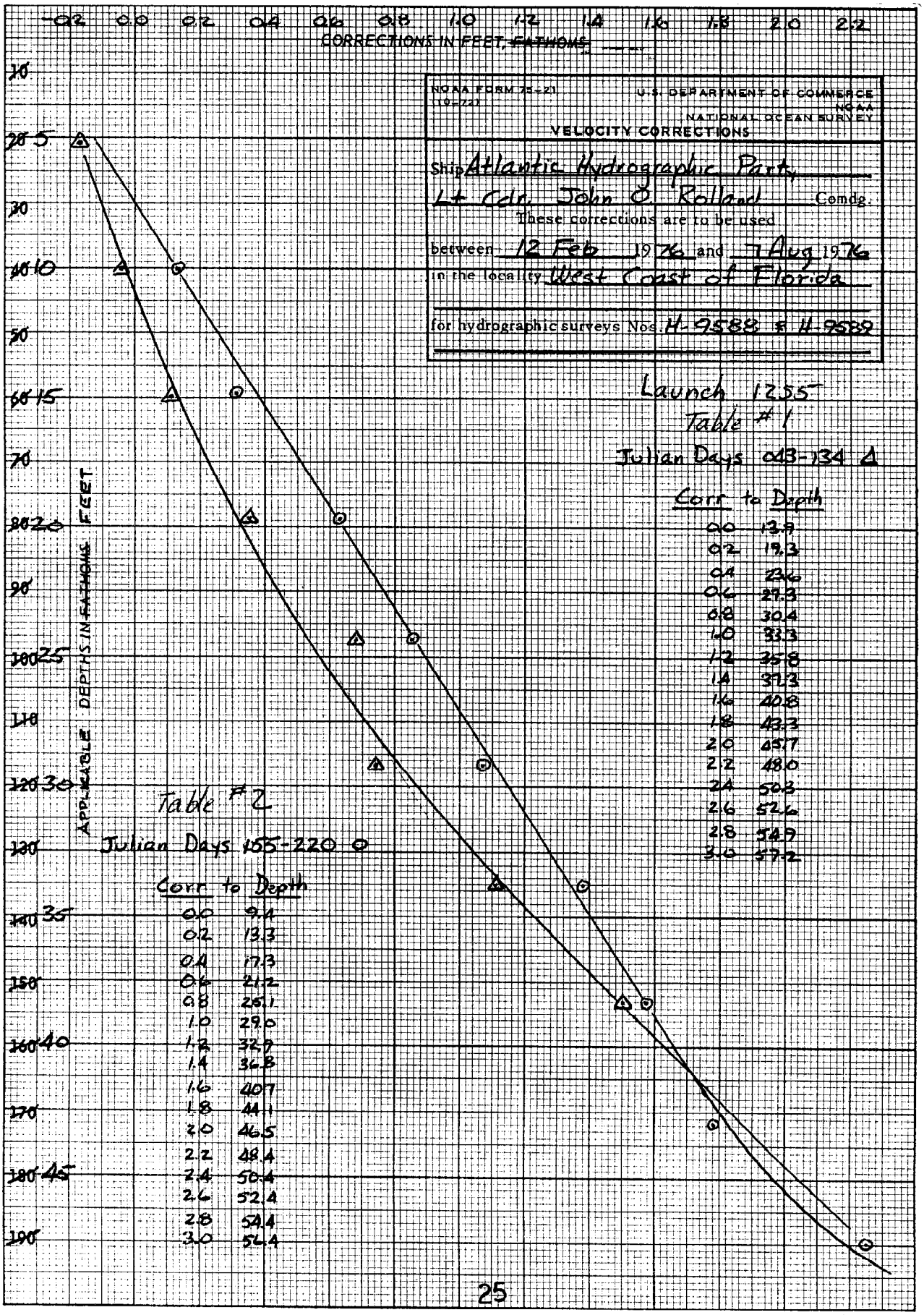
Respectfully Submitted,

for LCDR Albert Theberge, Jr.
OIC, Launch 1257

FIELD TIDE NOTE

Field tide reduction of soundings was based on predicted tides from St. Mark's River Entrance, Florida, corrected to Suwannee River Entrance, latitude 29°17', longitude 83°09'.

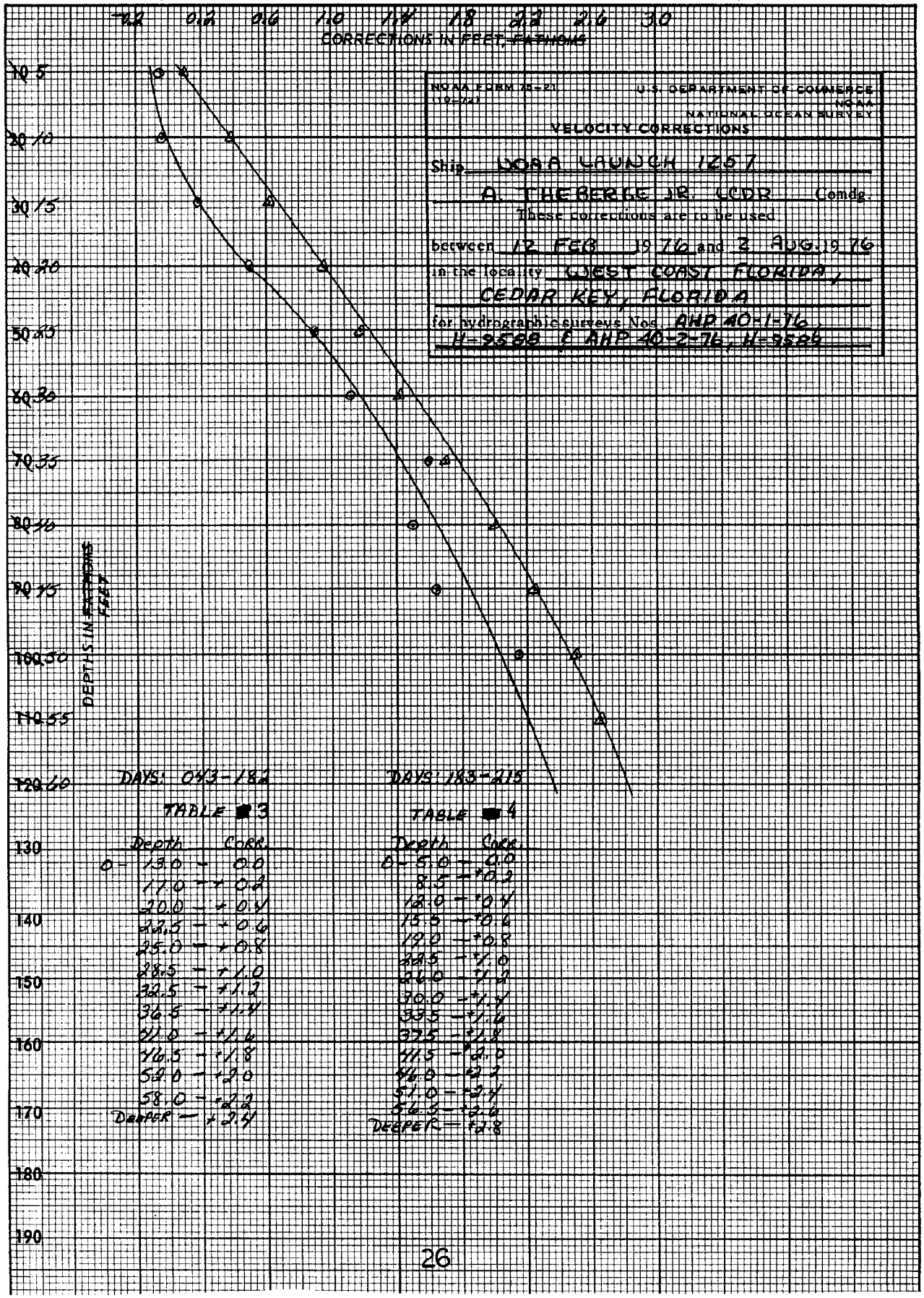
There were no tide gages installed by the hydro party within the limits of this survey.



(For deep water add a 0 to these figures)

☆ U. S. GOVERNMENT PRINTING OFFICE: 1972-

~~(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)~~



NOAA FORM 76-21 (10-62) U.S. DEPARTMENT OF COMMERCE NOAA NATIONAL OCEAN SURVEY

VELOCITY CORRECTIONS

Ship USC&G LAUNCH 1257
A. THEBERGE JR. LCDR Comdg.

These corrections are to be used

between 12 FEB 1976 and 2 AUG. 1976

in the locality WEST COAST FLORIDA
CEDAR KEY, FLORIDA

for hydrographic surveys Nos. AHP 40-1-76, H-9508 & AHP 40-2-76, H-9524

(For deep water add a 0 to these figures)

DAYS: 043-182

TABLE #3

Depth	Corr.
0 - 13.0	- 0.0
17.0	+ 0.2
20.0	+ 0.4
22.5	+ 0.6
25.0	+ 0.8
28.5	+ 1.0
32.5	+ 1.2
36.5	+ 1.4
41.0	+ 1.6
46.5	+ 1.8
54.0	+ 2.0
58.0	+ 2.2
Deeper	+ 2.4

DAYS: 183-212

TABLE #4

Depth	Corr.
0 - 5.0	- 0.0
8.5	+ 0.2
12.0	+ 0.4
15.5	+ 0.6
19.0	+ 0.8
22.5	+ 1.0
26.0	+ 1.2
30.0	+ 1.4
33.5	+ 1.6
37.5	+ 1.8
41.5	+ 2.0
46.0	+ 2.2
51.0	+ 2.4
56.5	+ 2.6
Deeper	+ 2.8

SETTLEMENT AND SQUAT CORRECTIONS

NOAA LAUNCH 1257

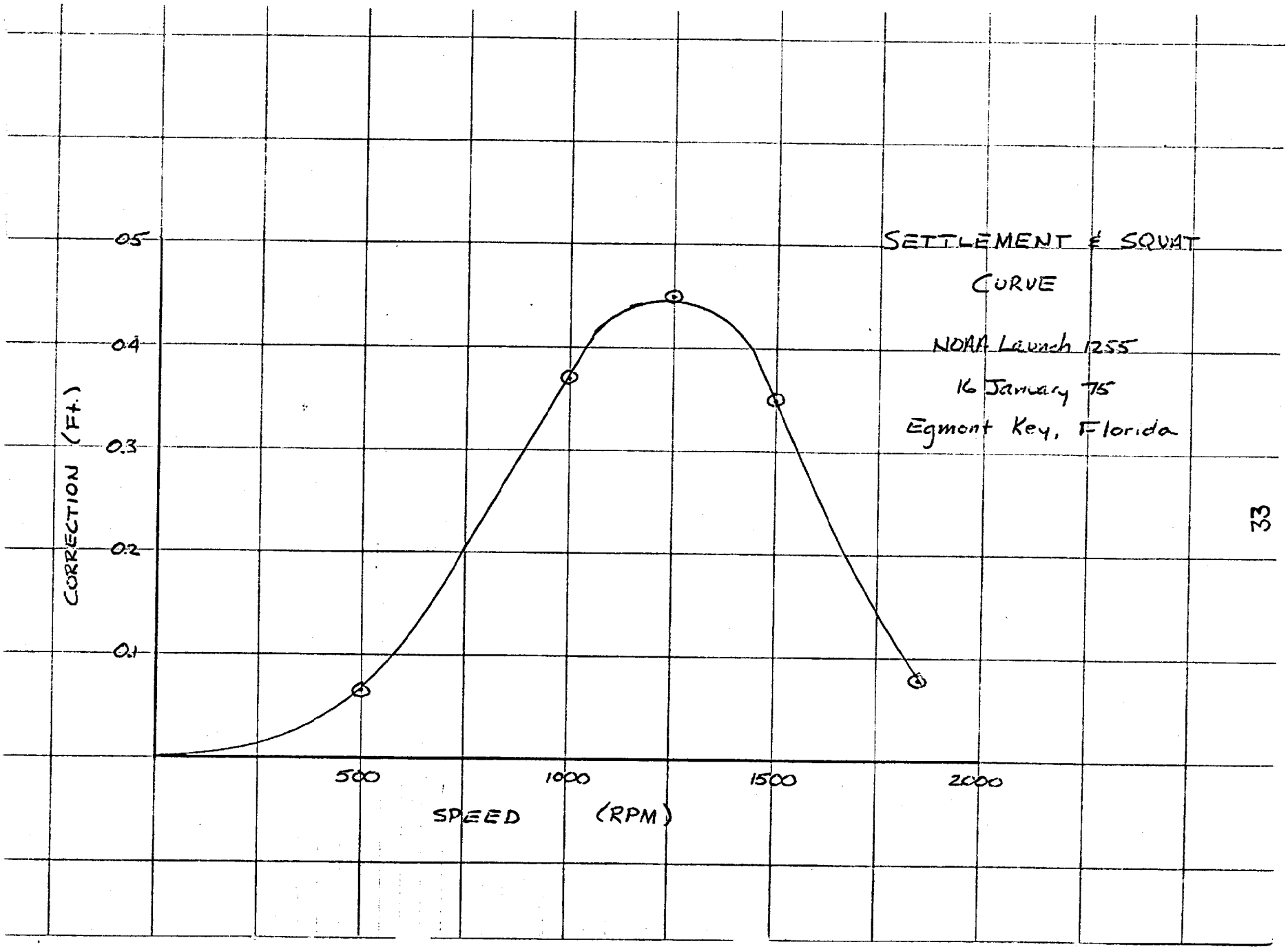
3 May 1976

(Level Method)

RPM	CORR.	
600 (idle)	+ .03	
1100 (slow)	+ .41	(+ .4)
1950 (standard)	- .28	(- .3)

Settlement and Squat Determination
NOAA Launch 1255
16 January 1975
Egmont Key, Florida

	RPM's	Stop	Out	Back	Stop	Average Stop	Average At Speed	Settlement & Squat
(Idle)	500	2.36	2.43.	2.40	2.33	2.34	2.41	+0.07
	1000	2.33	2.68	2.70	2.32	2.32	2.69	+0.37
	1250	2.32	2.76	2.74	2.27	2.30	2.75	+0.45
	1500	2.27	2.60	2.64	2.28	2.27	2.62	+0.35
(Full)	1850	2.27	2.33	2.35	2.26	2.26	2.34	+0.08


SETTLEMENT & SQUAT
CURVE
NOAA Launch 1255
16 January 75
Egmont Key, Florida
CORRECTION (Ft.)
0.5
0.4
0.3
0.2
0.1
500
1000
1500
2000
SPEED (RPM)

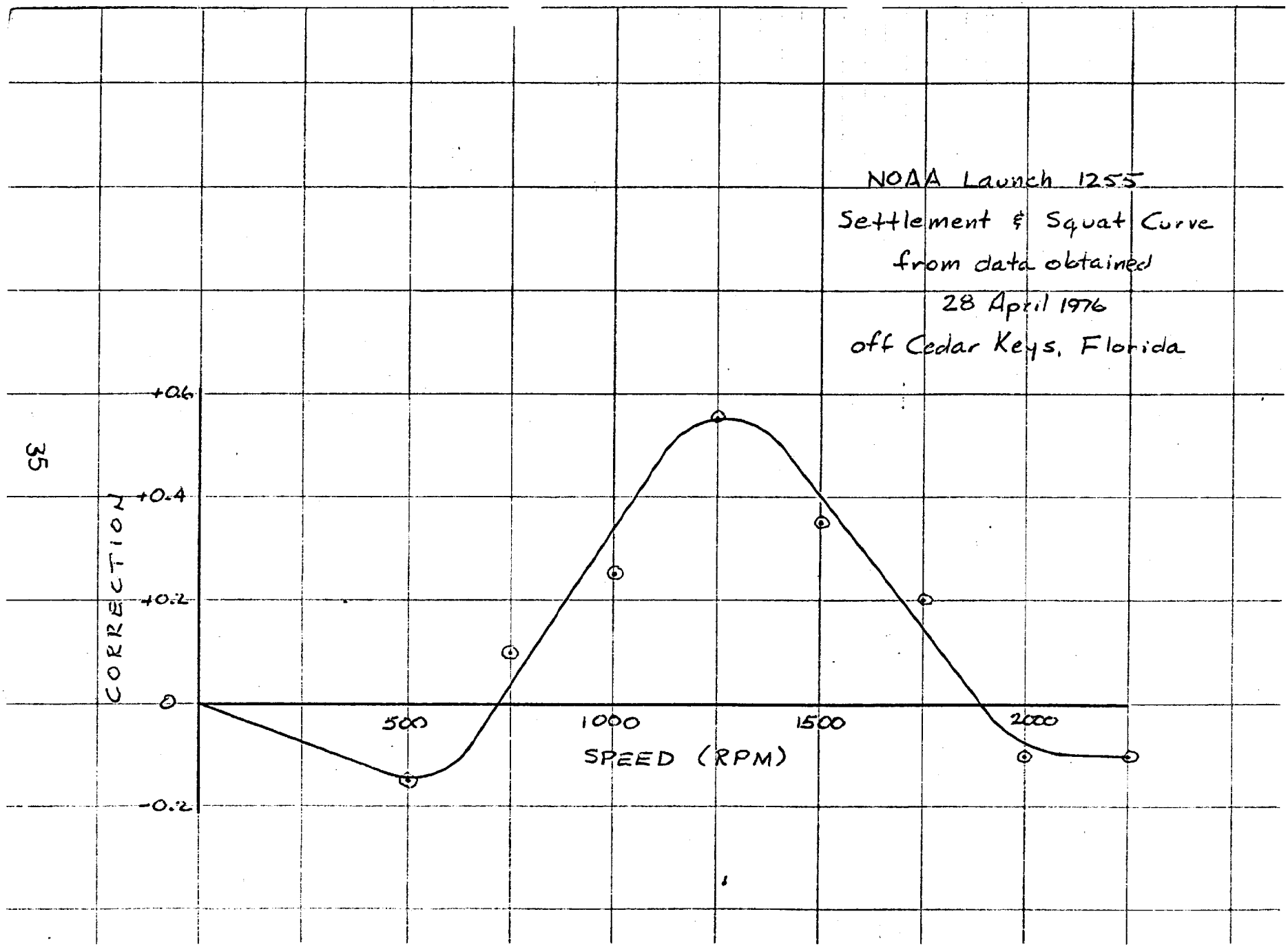
NOAA Launch 1255

Settlement & Squat Determination

April 28, 1976

Cedar Key, Florida

Speed (RPM)	Depths Stopped	Depths Out	Depths Back	Depths Stopped	Average Stopped	Avg at Speed	Settlement and Squat
500	22.7	22.9	22.8	22.7	22.7	22.85	-0.15
750	22.7	22.6	22.6	22.7	22.7	22.6	+0.10
1000	22.7	22.4	22.3	22.5	22.6	22.35	+0.25
1250	22.5	21.9	21.9	22.4	22.45	21.9	+0.55
1500	22.4	21.9	21.8	22.0	22.2	21.85	+0.35
1750	22.0	21.8	21.9	22.1	22.05	21.85	+0.20
2000	22.1	22.2	22.1	22.0	22.05	22.15	-0.10
2250	22.0	22.0	21.9	21.7	21.85	21.95	-0.10


NOAA Launch 1255
Settlement & Squat Curve
from data obtained
28 April 1976
off Cedar Keys, Florida
+0.6
+0.4
+0.2
0
-0.2
CORRECTION
500
1000
1500
2000
SPEED (RPM)

STATION LIST

VESNO 1255

H-9588

STA	LATITUDE	LONGITUDE	CRT	ELEV	F. KHZ	TYPE/NAME	SOURCE
001 7	29 28 05050	083 18 17847	~~250~~ 139	0000	330650	BOGGY, 1976	Shea
002 7	29 07 43520	083 03 07558	~~250~~ 139	0000	330650	H-AMC-5-FL, 1975	Shea
100 7	29 03 59367	083 04 33399	139	0000	000000	Fl 4sec 16' "1"	Shea
101 7	28 58 30019	083 09 15238	139	0000	000000	Fl 6sec 43' 7M	Shea

SIGNAL LIST

OPR-508 AHP-75

AHP 40-1-76

H-9588

VESNO 1257

001 7 29 28 05050 083 18 17847 ~~250~~ 139 0000 330640 BOGGY, 1976 (Shea)

002 7 29 07 43520 083 03 07558 ~~250~~ 139 0000 330640 H-AMC-5-FL, 1975 (shea)

100 7 29 03 59367 083 04 33399 139 0000 000000 Fl 4 sec 16' "1" (shea)

101 7 28 58 30019 083 09 15238 139 0000 000000 Fl 6 sec 43' "7M" (Shea)

APPROVAL SHEET

SURVEY H-9588 (AHP-40-1-76)

The hydrographic records transmitted with this report are complete and adequate.

No direct supervision was given by me during field work and the field sheet was examined only during routine field inspection of the hydro party.

This survey is complete and adequate with no additional field work recommended.

William R. Daniels
LCDR., NOAA
Chief, HSB

March 22, 1977 U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): Cedar Key
Suwannee

Period: February 12 - August 7, 1976

HYDROGRAPHIC SHEET: H-9588

OPR: 508

Locality: Florida West Coast

Plane of reference (mean ~~lower~~ diurnal low water): 1.75 ft. - Cedar Key
0.57 ft. - Suwannee

Height of Mean High Water above Plane of Reference is

Cedar Key: 3.2 ft.

Remarks: Recommended zoning:

Apply - 10 minute time correction and range ratio x0.92 to Cedar Key.

From June 1 - July 16 (no data at Cedar Key) use Suwannee applying the following time corrections:

High water	Low water
~~-5 min.~~ -20	-35 min. -20

James R. Hubbard
for Chief, Tides Branch

NOAA FORM 76-155
(11-72)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

SURVEY NUMBER

H-9588

GEOGRAPHIC NAMES

Name on Survey	A ON CHART NO.	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
CEDAR KEYS (TITLE)										1
SEAHORSE REEF										2
										3
										4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
					APPROVED					19
					Chas. E. Harrington -C3x8					20
					STAFF GEOGRAPHER -					21
					3 MAY 1978					22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

☆ U.S. G.P.O. 1972-769-565/516 REG.#6

APPROVAL SHEET
FOR
SURVEY H-9588

A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/~~has not~~ been made. A new final sounding printout has/~~has not~~ been made.

B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Provisional Hydrographic Manual. Exceptions are listed in the Verifier's Report.

Date: 3-24-78

Signed: Robert A. Pearsall

Title: for Chief, Verification Branch

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-9588

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	8
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. ARC, EXCESS	3

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACT SOURCE DOCUMENTS
ENVELOPES						1
CAHIERS	5 - with printouts					
VOLUMES						2
BOXES			1 - Smooth			

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS		
	PRE-VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			7073
POSITIONS CHECKED		7073	
POSITIONS REVISED		0	
SOUNDINGS REVISED		1800	
SOUNDINGS ERRONEOUSLY SPACED		0	
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED		0	
	TIME - HOURS		
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	24	0	
VERIFICATION OF CONTROL		0	
VERIFICATION OF POSITIONS		127	
VERIFICATION OF SOUNDINGS		89	
COMPILATION OF SMOOTH SHEET		176	
APPLICATION OF TOPOGRAPHY		0	
APPLICATION OF PHOTOBATHYMETRY		0	
JUNCTIONS		8	
COMPARISON WITH PRIOR SURVEYS & CHARTS		40	
VERIFIER'S REPORT		26	
OTHER			
TOTALS	24	466	490

Pre-Verification by I. M. Duncan, R. G. Roberson	*Beginning Date* 02/12/77	*Ending Date* 02/15/77
Verification by D. Mason, R. Roberson, I. Duncan	*Beginning Date* 03/15/77	*Ending Date* 03/23/78
Verification Check by R. D. Sanocki	*Time (Hours)* 8	*Date* 03/23/78
Marine Center Inspection by Hydrographic Inspection Team (AMC)	*Time (Hours)* 11	*Date* 03/23/78
Quality Control Inspection by R. K. Myers	*Time (Hours)* 23	*Date* 5/3/78
Requirements Evaluation by J Baumgardner	*Time (Hours)* 3	*Date* 5/9/78

passed RHS 5/9/78

REGISTRY NO. H-9588

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE_____ TIME REQUIRED_____ INITIALS_____

REMARKS:

REGISTRY NO. H-9588

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE 3/31/80 TIME REQUIRED_____ INITIALS JHC

REMARKS:

H-9588

Information for Future Presurvey Reviews

No significant bottom changes have occurred since the prior surveys.

Position Index Lat.	Long.	Bottom Change Index	Use Index	Resurvey Cycle
285	0832	3	2	50 years
285	0833	2	1	50 years
290	0832	2	2	50 years
290	0833	2	1	50 years
291	0832	2	2	50 years
291	0833	2	2	50 years
290	0834	2	1	50 years
291	0834	2	1	50 years

ATLANTIC MARINE CENTER
VERIFIER'S REPORT

REGISTRY NO. H-9588 FIELD NO. AHP-40-1-76

Florida, Gulf Coast, Vicinity of Cedar Keys

SCALE: 1:40,000 PROJECT NO.: OPR-508

SURVEYED: February 12 through August 7, 1976

SOUNDINGS: Raytheon DE-723 CONTROL: Raydist DR-S (Range-Range)

Chief of Party ..... W. R. Daniels
..... J. O. Rolland
Surveyed by ..... A. E. Theberge
..... D. M. Wilson
..... D. A. Drake
..... R. P. Floyd
..... S. R. Ellis
Automated Plot by ..... CALCOMP-618 Plotter (AMC)
Verified and Inked by ..... R. G. Roberson RGR
March 23, 1978

1. Introduction

No problems were encountered during verification of this survey.

Projection parameters were changed at the Atlantic Marine Center.

2. Control and Shoreline

a. Control is adequately discussed in Sections F and G of the Descriptive Report.

b. There is no shoreline in the survey area.

3. Hydrography

a. Soundings at crossings were in good agreement.

b. Standard depth curves were drawn and adequately delineated the bottom configuration. A 36-foot curve was drawn on the western portion of the survey to highlight small shoal areas.

c. Developments run were adequate to delineate the bottom and to obtain least depths. Developments run by Launch 1257 to confirm shoal depths were investigated by divers on two occasions. Section P of the Descriptive Report gives a detailed account of the investigations with an opinion offered by the hydrographer.

4. Condition of Survey

The survey is adequate to conform to the requirements of the Provisional Hydrographic Manual except as follows:

a. Bar checks were not taken as prescribed in Section 1.5.2, Echo Sounder Calibrations, of the Provisional Hydrographic Manual.

b. Times of hydrography were omitted from fathograms and volume indexes were incomplete.

5. Junctions

H-7792 (1950) to the west
H-7818 (1950) to the west
H-9583 (1976) to the south
H-9589 (1976) to the north

Adequate junctions were effected with H-9583 (1976) and H-9589 (1976). Adequate junctions could not be effected with H-7792 (1950) and H-7818 (1950) because of differences in depths in the junctional areas. The hydrographer adequately discussed the differences in Section J of the Descriptive Report. It is recommended that butt junctions be effected with these surveys. There are no contemporary surveys to the east.

6. Comparison With Prior Surveys

a. H-424 (1854) 1:20,000
H-512 (1855) 1:20,000
H-1377b (1877) 1:20,000

In the common area, approximately 10 percent of the eastern portion of the present survey, the comparison is adequate , with depths varying from 1 to 3 feet. The shallow area at latitude 28° 57', longitude 83° 11' disagrees by as much as 17 feet. Differences can be attributed to natural change in bottom configuration and improved surveying methods.

b. H-1771 (1887) 1:40,000
H-1928 (1889) 1:80,000

These surveys cover the remaining area of the present survey and compare favorably. Depths vary from 1 to 4 feet. Differences can be attributed to natural change in bottom configuration and improved surveying methods.

The present survey is adequate to supersede the above prior surveys within the common areas.

7. Comparison With Charts 11408 (12th Edition, July 13, 1974)
11400 (15th Edition, November 8, 1975)

a. Hydrography

The charted hydrography originated with the previously discussed prior surveys and requires no further consideration.

Attention is directed to the following:

The obstruction, P.A., fish haven and privately maintained buoys, charted in the vicinity of latitude 29° 04.5', longitude 83° 10.0' were not found by the present survey. The fish haven is not considered disproved and should be retained as charted, and the U. S. Coast Guard should be contacted as to future charting of the privately maintained buoys.

Except as noted, the present survey is adequate to supersede the charted hydrography.

b. Aids to Navigation

The aid to navigation located was adequate to serve its intended purpose.

8. Compliance With Instructions

This survey complies with the Project Instructions.

9. Additional Field Work

This is an excellent basic survey; no additional field work is necessary.

Inspection Report
H-9588

Any verification errors regarding procedures and presentation of survey data detected during inspection by the Hydrographic Inspection Team have been corrected before submission for administrative approval. HIT comments regarding quality of field work, compliance with instructions, and adequacy of the survey have been incorporated within the Verifier's Report.

Examined and Approved:
Hydrographic Inspection Team
Date:

Robert A. Trauschke, CDR, NOAA
Chief, Processing Division

Charles H. Nixon, CAPT, NOAA
Chief, Operations Division

R. D. Sanocki
Technical Assistant
Processing Division

ABSENT
C. Douglas Mason, LT, NOAA
Chief, Electronic Data
Processing Branch

Guy F. Trefethen
Team Leader
Verification Branch

Approved/Forwarded

Robert C. Munson
RADM, NOAA
Director, Atlantic Marine Center

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

C352/GKM

May 3, 1978

TO: A. J. Patrick
Chief, Marine Surveys Division

FROM: G. K. Myers
Chief, Quality Control Branch

SUBJECT: Quality Control Report for H-9588 (1976), Florida, West Coast, Vicinity of Cedar Keys

Survey H-9588 was inspected to evaluate the accuracy and adequacy of the survey with respect to data acquisition, delineation of the bottom, determination of least depths, navigational hazards, sounding line crossings, smooth plotting, decisions and actions by the verifier, and cartographic presentation of data.

The adequacy of the junction with H-9589 (1976) on the north will be evaluated during the quality control of that survey.

H-7792 (1950) and H-7818 (1950) on the west are not considered contemporary surveys; therefore, a butt junction was not attempted with these surveys during quality evaluation.

A comparison between the aforementioned surveys and the present survey reveals only minor differences in depths. These changes are considered to have been caused by current action and sedimentation.

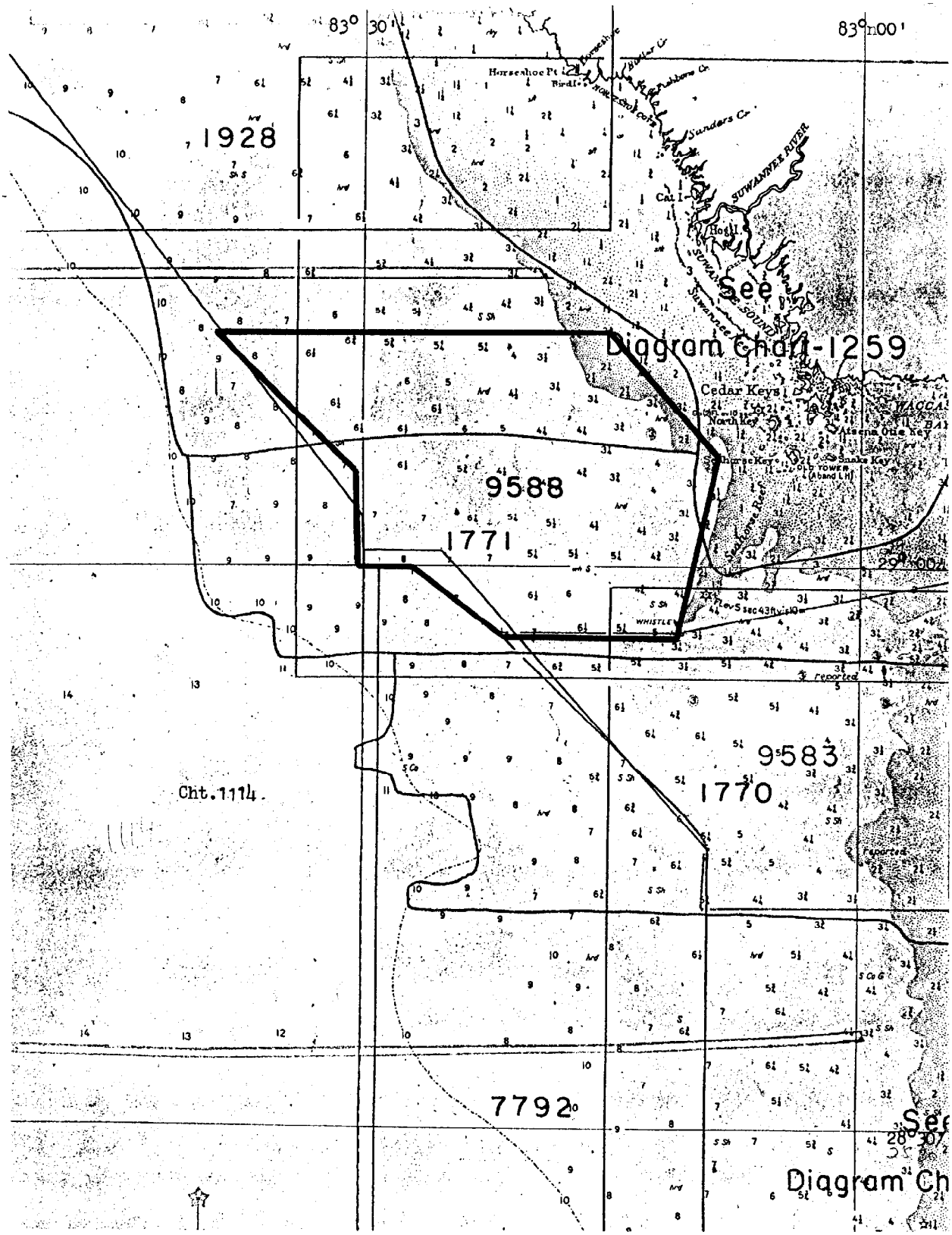
The present depths are in good agreement with charted depths in this area at the project limits on the west.

In general, the present survey was found to conform to National Ocean Survey standards and requirements except as discussed in the Verifier's Report, HIT Report, and as follows:

1. There are no contemporary surveys on the east as stated in the Verifier's Report; however, present depths are in harmony with charted depths.

2. Some sounding values shown on the smooth sheet differed from comparable depths listed under the heading, PLOT DEP, in the final sounding printout. These conflicts were resolved by the quality evaluator and a representative of the Atlantic Marine Center Processing Division during quality control.

cc:
C351


83° 30'
83°00'
1928
Horseshoe Pt.
Sanders Cr.
SUWANNEE RIVER
Hogtown
See
Diagram Chart-1259
Cedar Keys
North Key
Atsena Otie Key
Horse Key
Snake Key
Old Tower
(Abandoned LH)
9588
1771
29°00'
WHISTLE
Revised Sec 43 Hydrow
Reported
9583
1770
Cht. 1114.
7792
Reported
See
Diagram Ch

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9588

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.
1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.

CHART	DATE	CARTOGRAPHER	REMARKS
11408	9-5-78	J. OWYANG	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. CRITICAL CORRECTIONS ONLY
1258	1/15/79	R. Richter	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 26
11408	5-16-79	J. OWYANG	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 27
11400	10-16-79	O. Wiebe	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 29
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
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			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8556-P63